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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Heiko Urtel

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EXAMINER

NGUYEN, COLETTE B

ART UNIT

PAPER NUMBER

4162

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,948	Applicant(s) URTEL ET AL.	
	Examiner COLETTE NGUYEN	Art Unit 4162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/21/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/02/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-5, 7-10, 15-19 and 21** are rejected under 35 U.S.C. 102(b) as being anticipated by Kitson et al. (4,985,572). Kitson teaches a catalyst composition comprising an alloy of (i) at least one noble metal of Group VIII and (ii) at least one metal, capable of alloying with the Group VIII noble metal, optionally including a support and at least one of the metals of rhenium, tungsten or molybdenum. The process is particularly applicable to the hydrogenation of carboxylic acids and their anhydrides to produce the corresponding alcohol and/or carboxylic acid ester. The teachings of Kitson encompass the instant claims.
3. **Regarding claim 1 and 18.** Kitson teaches a hydrogenation process of carboxylic acids and their anhydrides of C₂ to C₁₂. As regards the catalyst composition, the noble metals comprise palladium (Pd), platinum (Pt), iridium(Ir), rhodium(Rh). Another component of the catalyst composition comprises tin(Sn), cobalt (Co), copper (Cu), iron(Fe), nickel(Ni) or molybdenum.(col. 2). The composition of the catalyst taught by Kitson encompasses the instant claim.

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4. Regarding claim 2. As regards the catalyst composition, Kitson teaches the noble metals to comprise palladium (Pd), platinum (Pt), iridium(Ir), rhodium(Rh) . The same components as claimed.

5. Regarding claims 3 and 15. Kitson also teaches another element of the catalyst to comprise of tungsten (W), tin (Sn), and chromium (Cr). The teaching encompasses the claimed elements.

6. Regarding claims 4 and 16. Kitson teaches “ it is preferred to incorporate as component (B) at least one of the metals rhenium, tungsten or molybdenum”. (Col. 2, line 60).

7. Regarding claims 5,17 and 21. Platinum (Pt) and Tin (Sn) are among the catalyst composition that Kitson teaches specifically. (Col. 2)

8. Regarding claim 7. Kitson teaches hydrogenation process of gamma butyrolactone, one of the hydrogenation results of the claim.

9. Regarding claim 8. Kitson also teaches a supported catalyst. (col. 2, line 62)

10. Regarding claim 9. Kitson teaches a composition of 0.1 to 20% by weight as noble metal, compared to 0.01 to 30% as claimed, and from 1-10% by weight of component (B), comparing to 0.01-50% as claimed. The percent weight of the catalyst overlaps therefore anticipated.

11. Regarding claims 10 and 19. Kitson teaches suitable supports including high surface area graphitized (HSAG) carbons, graphites, carbons, silicas/aluminas. Same support materials as claimed, therefore anticipated.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

Claims 2-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitson (4,985,572) as applied to claims 1 and 18 above, and further in view of Antons (5,731,479). Kitson teaches a catalyzed hydrogenation of carboxylic acids and their anhydrides, a carboxylic acid derivative, to alcohols and/or esters using a supported catalyst composition of at least one or two noble metals, mainly platinum, tin and tungsten, however he does not specifically teaches the process for the preparation of optically active alcohols by using optically active carboxylic acid, also a carboxylic acid derivative. Antons, in the other hand, teaches preparation process of optically active alcohols by reducing optically active carboxylic acids with hydrogen in the presence of ruthenium catalysts instead. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the catalyst composition taught by Kitson to reduce unwanted alkanes formation which decreases the selectivity to desirable products, with Antons' teachings of optically active substituted alcohols with carboxylic acids and their derivatives.

Regarding claim 6. Antons teaches optically active acids with stereo-center at α and β position (Col 2, line 34-40).

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Regarding claim 11. Antons teaches alcohols as reducing agent (Col.2, line 60).

Regarding claim 12. Antons teaches a pressure range of 50-220 bar. Vs. 100-300 bar as claimed(Col.2 line 66)

Regarding claim 13. Antons teaches a temperature range of 50-150C vs, 30-180C as claimed. (Col.2, line 66).

Regarding claim 14. Kitson teaches a requirement to introduce an acidic function into the catalyst to promote "in situ" hydrogenation results. (col.6, line 20)

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,149,680, US 4,777,303,US 6,310,254,US 5,536,879.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLETTE NGUYEN whose telephone number is (571)270-5831. The examiner can normally be reached on Monday-Thursday, 10:00-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Mc Neil can be reached on (571)-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLETTE NGUYEN/
Examiner, Art Unit 4162

/Jennifer McNeil/

Supervisory Patent Examiner, Art Unit 4162